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ABSTRACT

An electronic portfolio is a collection of selected documents that illustrate an individual's competencies, skills, and accomplishments in a consolidated technological format. Like the traditional portfolio, counselors can use an electronic portfolio to document their professional skills and progress for supervisors, record their professional development, and emphasize specific skill areas for potential employers. This chapter describes the concept, applications, development, and technological requirements for electronic portfolio development. It then discusses a model for infusing an electronic portfolio project into a graduate curriculum to prepare counselors to work more effectively. This chapter also examines implications of electronic portfolios for learning and for the new millennium. An appendix provides a list of Web sites that have information about the electronic portfolio process. (Contains 17 references.) (MKA)

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Electronic Portfolios in Counselor Education

JACQUELINE LEWIS, DIANE COURSOL, AND KAY HERTING-WAHL

From ATM cards to the Internet, technology is now an integral part of life and work. Like most professions, the counseling field is also feeling the impact of technological innovations. Today, clients meet with their counselors in cyberspace as they engage in web counseling, and supervisors and supervisees maintain contact with each other through the Internet. This unprecedented evolution of technology has led to some concern over the ramifications for the counseling profession (Lambert, 1988). As we move into the new millennium, the profession must evaluate the role of technology in counseling and its implications for the future.

Acknowledging these developments, the counseling profession recognizes the need to ensure that counselors are technologically proficient. The electronic portfolio is one means to provide counselors with the opportunity to develop technological competencies. Today, it is used increasingly in K–12 settings (Bushweller, 1995; Golomb, 1996; Milone, 1995; Mohnsen, 1997) and in higher education (Holt, Ludwick, & McAllister, 1996; Richards, 1998; Riggsby, Jewell, & Justice, 1995).

This chapter first describes the concept, applications, development, and technological requirements for electronic portfolio development. It then discusses a model for infusing an electronic portfolio project into a graduate curriculum to prepare counselors to work more effectively in an increasingly technological environment. The chapter also examines implications of electronic portfo-

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lios for learning and for the new millennium. An appendix provides a list of web sites that have information about the electronic portfolio process.

THE CONCEPT OF THE ELECTRONIC PORTFOLIO

An electronic portfolio is a collection of selected documents that illustrate an individual's competencies, skills, and accomplishments in a consolidated technological format (Bushweller, 1995; Richards, 1998; Tuttle, 1997). Like the traditional portfolio, counselors can document their professional skills and progress for supervisors, record their professional development, and emphasize specific skill areas for potential employers.

Some counseling training programs have already begun to incorporate the traditional portfolio (Carney, Cobia, & Shannon, 1996). Baltimore, Hickson, George, and Crutchfield (1996) as well as Carney et al. have suggested that portfolios are a means of encouraging counselors to assess their own development, of promoting collaboration among students and faculty, and even as a form of performance assessment. These authors have indicated their belief that portfolios provide a more comprehensive picture of counselors' professional growth and development. The electronic portfolio incorporates all these elements. The multimedia format of the electronic portfolio allows for the inclusion of different types of documentation that attest to an individual's professional achievements. So it is possible to include text, graphics, and video and audio materials (Milone, 1995; Tuttle, 1997). The electronic portfolio can provide a more comprehensive and vivid representation of a counselor's educational experience and training during his or her graduate program or professional career (Lewis, Coursol, & Wahl, 1998).

For counselors, the electronic portfolio can effectively document individual counseling and other professional skills. Counselors may include a variety of materials such as certificates, plaques, statements of their philosophy and goals, developmental guidance plans, handouts developed for presentations, treatment plans (with all identifying information removed), records of practicum/internship hours and work experience, certificates of special training, and national and state licensures. It is also possible to include individuals'

reflections on how these experiences have promoted their professional development. The electronic format enables counselors to demonstrate the performance of these skills visually through video clips of counseling sessions (simulated to protect client confidentiality) or scanned photographs of professional accomplishments.

Unlike the traditional portfolio, the documentation in an electronic portfolio can be arranged so as to maximize its impact on the reader. In the traditional portfolio it is not always possible to include materials like a video clip at the appropriate point in the binder. In fact, a statement that informs the reader to watch the videotape is usually included. This can be inconvenient for the reader who may choose to view the material later, outside its specific context. Such an arrangement can detract from the power of the portfolio. In the electronic portfolio, these materials are incorporated synergistically into the product for the reader to view for greatest effect.

APPLICATIONS OF ELECTRONIC PORTFOLIOS IN COUNSELOR EDUCATION

For counselors, the electronic portfolio can have a number of different applications. The manner in which the electronic portfolio is used depends on individual or programmatic needs. For example, the electronic portfolio may be used as a

- **professional development portfolio:** This is a way counselors can document their progress throughout their graduate program and career. Counselors can maintain a professional development portfolio containing examples of their work in courses, their internship experiences, and their work experience. They can also include their reflection of how these experiences have impacted their professional growth and development.
- **clinical skills portfolio:** This is a means of documenting a counselor's growth in the area of clinical skills. Counselors can maintain a clinical portfolio that contains samples of their work in or with various training or internship sites and agencies. They can also chronicle skills in specific areas such as career counseling, assessment, marriage and family counseling, or multicultural counseling.
- **career portfolio:** With the electronic career portfolio, counselors can present their skills, experiences, and competencies to

future employers in a real and powerful way. The electronic career portfolio can be customized to the requirements listed in the position description.

- **performance assessment portfolio:** This is an alternative method for assessing students' knowledge, skills, and ability to translate theory to practice. Such a portfolio may contain information on the student's progress over time in coursework, clinical experiences, research, and specific areas established by the department. Students may also want to document skills in the eight core areas identified by the Council for the Accreditation Counseling and Related Educational Programs (CACREP, 1994). It is critical that departments establish clear evaluation criteria and make every attempt to maintain adequate validity and reliability for this process.

THE DEVELOPMENT AND ORGANIZATION OF THE ELECTRONIC PORTFOLIO

The development and organization of the electronic portfolio is a dynamic and evolving process. For counselors, the planning and preparation can begin early in their graduate experience. In an ideal situation, counseling students are introduced to the concept and purpose of the electronic portfolio during the first semester, in introductory classes, and encouraged from the outset to think about their entire graduate experience within the context of electronic portfolio development.

An important first step in the development of the electronic portfolio is the identification of the purpose of the portfolio. Clearly articulating the aim of the portfolio is key because this determines the organization and selection of materials to be included in the final product. Therefore, thinking about the purpose of the electronic portfolio and its target audience carefully from the outset is important.

Once the purpose of the electronic portfolio is clearly defined, the next step is to consider its organizational format. The organization of the portfolio should be linked to the purpose of the electronic portfolio. In fact, the purpose determines how the counseling skills, competencies, and experiences are presented within the electronic portfolio. If the objective is to chronicle skill devel-

opment, a skill-based portfolio that shows skill growth and development over time may be appropriate. Creative portfolio organization is critical as the presentation of the materials dramatically impacts how the electronic portfolio will be evaluated.

When the organization of the electronic portfolio has been determined, then the selection of the appropriate materials can begin. Materials selection should be undertaken with care. The random inclusion of materials without any thought as to their association with the purpose of the portfolio will detract from the effectiveness of the final product. When selecting materials for inclusion in the portfolio, it is imperative that counselors at all times protect client confidentiality. The selected materials are then transformed into an electronic format for incorporation into the electronic portfolio. This transformation process usually involves word processing and scanning materials into a digital format. In this way readers of the electronic portfolio have both a pictorial and written representation of the counselor's experience.

TECHNOLOGICAL REQUIREMENTS

Electronic portfolios require the hardware and software that is often available at most institutions of higher education and in many organizations or agencies today. The hardware requirements include a computer with multimedia capabilities, a scanner, digital or video camera, and a microphone. The scanner transforms documents and photographs into digital format so that they can be encompassed into the electronic portfolio. With a video or digital camera, counselors can record samples of their clinical skills and related professional experiences. With a microphone, audio recordings can be made of counselors' reflections on their professional development or of references' statements.

An essential step in electronic portfolio development is the selection of an appropriate software package. Several multimedia software packages with audio and video capabilities are available, such as Hyperstudio (1998) and PowerPoint (1998). Hyperstudio is often used for the development of electronic portfolios. However, it is also possible to use a readily available software program like PowerPoint, one of the most popular software presentation programs today.

The electronic portfolio can be stored in a variety of mediums such as a floppy disk, super disk, zip disk, jazz disk, or a writable CD. Two things to consider when choosing a storage format are the size of the portfolio and the ability to update the portfolio throughout one's professional career. With the expanding role of the World Wide Web, it appears pragmatic to consider making the electronic portfolio accessible through the Internet. To place the electronic portfolio in cyberspace, the document must be saved in html format, something that is possible in PowerPoint.

A MODEL FOR INFUSING ELECTRONIC PORTFOLIOS INTO THE CURRICULUM

In the 1999 spring semester, the Department of Counseling and Student Personnel at Minnesota State University, Mankato, introduced an electronic career portfolio project in the internship classes for second year students in the three tracks of school counseling, community counseling, and student affairs. These classes were selected because the smaller class size made it possible to provide individualized instruction and assistance to students.

The project involved two phases: faculty training and student instruction. Phase one involved training the faculty who taught the internship classes to use PowerPoint as an electronic portfolio development tool. The first step required introducing faculty to the concept, purpose, and uses of the electronic portfolio. As part of this training, the faculty were shown a presentation on electronic portfolio development and an example of an electronic career portfolio. They were then provided with a packet of materials that contained an outline of the PowerPoint presentation on electronic career portfolio development that was shown to them, a handout describing the electronic career portfolio project, a handout that provided step-by-step instructions on how to use PowerPoint to create an electronic career portfolio, and a student evaluation form for the electronic career portfolio project. The faculty were taught to use a digital camera and a flatbed scanner to transform documentation such as photographs and certificates into a digital format for inclusion into the electronic career portfolio.

Phase two was student instruction. Students were introduced to the development of an electronic career portfolio and were shown an example of a career electronic portfolio. Faculty also demonstrated to the students how to use PowerPoint to create an electronic career portfolio. In addition, the students were provided with the handouts that were shared earlier with the faculty. To support students in their initial attempts, class time was set aside during which students could begin the development of their electronic career portfolios. This allowed the faculty to provide students with individualized attention based on their needs and level of technological expertise. Throughout the semester, the project directors were available to faculty and students for consultation and instruction.

A unique aspect of this project was the decision to use PowerPoint to develop the electronic career portfolio. PowerPoint was chosen intentionally to demonstrate that sophisticated technological resources were not required for the creation of electronic portfolios. This project showed that electronic career portfolios could be created with a program to which most people have access. It was advantageous to choose a software program that faculty and students were familiar with as it allowed their attention to focus on the creation of the electronic portfolio rather than on the technical aspects of the software package.

Because the purpose of the electronic career portfolio project was to facilitate the job search process, the following organizational format was recommended:

- introduction/copyright statement;
- academic preparation;
- professional skill areas;
- awards and certification;
- conferences and presentations;
- professional affiliations; and
- references.

These categories were selected based on the skills and competencies typically expected of counseling professionals.

The introduction/copyright statement indicated that the portfolio was the individuals' unique work, personal, and not to be

copied without permission. The next two sections, academic preparation and professional skill areas, demonstrated the skills and competencies possessed by individuals that are critical to the profession. The awards and certifications section provided documentation of professional skills and abilities acquired in addition to academic preparation. This allowed individuals to demonstrate areas of specialization that are most consistent with professional growth objectives. Documentation of conference and presentation attendance and of professional affiliations provided additional evidence of the individuals' commitment to professional growth. References, the final section, supported claims of expertise and experience from people who were involved with the professional development of counselors. Thus statements of support could be incorporated through video or audio format into the electronic portfolio. With the stroke of a mouse the potential reader could hear direct feedback and observations about the individual.

It is important to note that these categories were suggestions intended to provide some initial structure for the organization of the electronic career portfolio. Students were encouraged to design and present their electronic career portfolio in a professional but personally unique manner.

At the end of the semester, students handed in their electronic portfolios to the faculty instructor and received feedback. Based on the feedback, students made revisions to their product. Two weeks after the semester ended, an e-mail was sent out to all students informing them that they had the option of having their portfolios placed on the web. Those students who chose this option then linked their portfolios to the departmental web page in a read-only format. This format ensured that no information could be copied off the Internet. Examples of these portfolios can be found at www.coled.mankato.msus.edu.

Faculty reactions and support for the electronic career portfolio project were very positive. The faculty were especially appreciative of a means for infusing technology into the curricula in a way that encouraged students to reflect upon their graduate experience. Students were appreciative of the chance to learn and practice the use of technology. They were also pleased to have a

tangible product to take with them as they embarked in the job search process.

THE LEARNING IMPLICATIONS OF THE ELECTRONIC PORTFOLIO

The electronic portfolio has several advantages in addition to those offered by the traditional portfolio for counselors. Obvious advantages include cost-effectiveness, reader convenience, visual demonstrations of skills, and audio-based references. However, the electronic portfolio can also facilitate the learning process in several significant ways. In graduate training programs, electronic portfolios offer a significant way to infuse technology into the curriculum. The experience makes students more technologically proficient as they learn about multimedia software programs, digital and video cameras, and scanners. In turn, this experience prepares them to deal effectively with emerging technological developments throughout their professional careers.

The process of developing an electronic career portfolio increases insight and a sense of ownership among counselors for their professional development. As they choose what to include in their electronic portfolios, there is a greater sense of proprietorship over their professional development. Through reflection on their graduate and work experiences, counselors acquire a better understanding of the relationship between their learning and the world of work.

Electronic portfolio development also prepares counselors for the job search process. Smith (1996–97) recommended that job seekers develop career portfolios to compete effectively in the job market. Developing the electronic career portfolio teaches counselors about their skills and abilities, promoting greater professional maturity. In turn, counselors can interview more effectively because they can discuss their professional competencies in a mature and insightful manner (Golomb, 1996; Sherbert, 1996–97). Besides, the versatile format of the electronic portfolio allows it to be adapted easily to the requirements of a variety of employment opportunities.

Although the electronic portfolio offers many advantages to counselors in a highly mobile and fast-changing world, it does have limitations. Perhaps one of the most immediate concerns is the security of personal information. There is concern that an individual's

personal information can be easily copied. This concern is heightened when the portfolio is available on the Internet. One way to guard against the unauthorized copying of information is to save the electronic portfolio in a read-only format when distributing it to potential employers. Security issues on the Internet can be addressed through the use of encryption procedures often in place at most higher education institutions.

Another limitation is the accessibility of technological hardware and software. The reality is that the availability of technological resources may vary from institution to institution. However, this limitation is likely to decrease as technology and electronic portfolios become more common.

IMPLICATIONS FOR THE NEW MILLENNIUM

The electronic portfolio is one way to adapt the emerging technological innovations to the field of counseling. With its versatile format, counselors can harness the potential of one of the fastest developing and dynamic technologies of the decade, the Internet. This alliance between the electronic portfolio and cyberspace provides several advantages to counseling professionals including virtually unlimited worldwide access to employment opportunities, a forum to market counseling services to potential clients, and a cost-effective medium to reach previously untapped audiences.

CONCLUSION

The electronic portfolio, a novel concept in counselor education, is an attempt to prepare future counselors for an increasingly technological world. Not only does an electronic portfolio infuse technology into the curriculum, but it also promotes professional development among counselors. As a cutting-edge innovation, the electronic portfolio prepares counselors for the challenges of the new millennium.

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Appendix

Electronic Portfolio Resources

A search of the World Wide Web revealed a number of web sites that have information about the electronic portfolio process. (One way to generate a list of such sites is to type in search terms such as *digital portfolio* or *electronic portfolio* using a search engine of your choice.) The majority of the web sites listed here contain information about the use of the electronic portfolio in K–12 or in programs of teacher education. They were selected based on their ability to describe the electronic portfolio development process or to provide examples of electronic portfolios.

- *College of Education*, Minnesota State University, Mankato (http://www.coled.mankato.msus.edu)
- *Creating Digital Portfolios* by Arnie Abrams, Southern Oregon State College (http://www.wce.wwu.edu/necccd/necchtml/proceeds/abrams/proceed.htm)
- *Electronic Portfolios* (http://www.esc20.net/techserv/workshops/portfolio/default.html)
- *Electronic Portfolios* by Yolanda Abrenica (http://edweb.sdsu.edu/courses/edtec596r/students/Abrenica/Abrenica.html#how)
- *A Guide to the Development of Professional Portfolios in the Faculty of Education* (http://www.edu.uleth.ca/fe/ppd/contents.html)
- *Sample Teaching Portfolios* (http://www.utep.edu/~cetal/portfoli/samples.htm)
- *Student-Created Electronic Portfolios* (http://www.7oaks.org/port/Default.htm)
- *Student Electronic Portfolios* by Thomas Arbruster (http://jrti.berk.tec.wv.us/portfolio/Port_intro.htm)
- *Student Portfolios* (A Collection of Articles) (www.business1.com/iri_sky/StuPort/stpc.htm)
- *Student Portfolios*, Delaware State Education Association (http://www.dmv.com/~dsea/profdevl/portintr.html)

- *Students Develop a Digital Portfolio*, Anaktuvuk Pass, Alaska (http://www.nsbsd.k12.ak.us/ARCHIVE/aste/digitalport.htm)
- *Technology-Supported Portfolio Development* (http://transition.alaska.edu/www/Portfolios/ElectronicPortfolios.html)
- *Using Portfolios in the Classroom* (http://www.migrant.org/data/portfolio.html)
- *What the "Digital Portfolio Guide" Is* (http://www2.soc.hawaii.edu/com/CClab/Portfolio/Is.html)
- *Why Electronic Portfolios* (http://www.wallowa.k12.or.us/wallowa/Tips/why.html)